

09/873,505

Claim 39 is supported by original claim 1, and by original disclosure in Examples 3-7, and 10-12.

Claim 46 is supported by original claims 1 and 25, and by original disclosure on page 5, line 18; and in Examples 3 and 4.

35 U.S.C. §103

Wurzburg et al in view of Eskin et al

Claims 1-4 and 8-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wurzburg et al. ("Modified Starches: Properties and Uses", 1986) in view of Eskin et al (US Patent Number 5,882,713. A *prima facie* case of obviousness under 35 U.S.C. 103 requires that the reference(s) must teach or suggest all of the claim limitations. The Wurzburg reference fails to teach or suggest all of the claim limitations in Applicant's amended claims, namely the claim limitations of a sunscreen active, a cationic starch, a formulation with a preservative, or a method requiring mechanical force to release the starch-encapsulated active.

The Wurzburg reference fails to teach or suggest a stable aqueous formulation having a starch-encapsulated sunscreen active.

The Wurzburg reference fails to describe the use of a cationic-starch, and teaches away from the use of cationic starch by describing only alkenyl succinate modified starches.

The Wurzburg reference fails to teach or suggest a personal care or cosmetic aqueous formulation containing a preservative.

Finally, the Wurzburg reference fails to teach a formulation in which the active ingredient is released to the hair or skin by mechanical energy. The Wurzburg reference teaches away from application to skin by mechanical energy by disclosing reconstitution in water (page 141, part 5, third sentence), and by heat (page 143, first full paragraph, 11<sup>th</sup> sentence.)

The Eskins reference describes starch-oil composite powders, in which the starch and oil do not separate. The starch-oil composites may be dispersed in water to form smooth, stable dispersions. The starch-encapsulated hydrophobic compounds claimed by Applicant, are formed by the method described in the Eskins reference. As with the Wurzburg reference above, the Eskins reference fails to teach or suggest all of the claim limitations in Applicant's amended claims, namely the claim limitations of a

09/873,505

sunscreen active, a cationic starch, a formulation with a preservative, or a method requiring mechanical force to release the starch-encapsulated active.

The Eskins reference fails to teach or suggest a stable aqueous formulation having a starch-encapsulated sunscreen active. The Eskins reference does disclose the use of starch-encapsulates compounds in suntan lotions, in column 13, line 60. One in the art knows that sunscreen actives are quite different, and function by a different means from suntan ingredients. One would not be motivated by the disclosure of a suntan to produce the sunscreen formulation claimed by Applicant.

The Eskin reference fails to describe the use of a cationic-starch, and teaches away from the use of cationic starch by first stating in column 6, line 57 that preferably unmodified starches are used, and then stating that modified starches may be used – but referring only to starches modified by retrogradation to change the amylose content (col. 7, lines 1-12).

The Eskins reference fails to teach or suggest a personal care or cosmetic aqueous formulation containing a preservative. No such formulation is exemplified or suggested in the Eskins reference.

Finally, the Eskins reference fails to teach a formulation in which the active ingredient is released to the hair or skin by mechanical energy. The Eskins reference does disclose scratch and sniff pads (col. 14, line 10), and the formation of films that could be broken (Example 1), but fails to teach or suggest the application of the active ingredient to skin or hair by mechanical energy.

Wurzburg et al. and Eskin et al in view of Roulier

Claims 3, 5 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wurzburg et al., Eskin et al., as applied to claims 1, 2, 8-21 and 23-25, and further in view of Roulier et al, EP 0938892 A1. As described above, the Wurzburg and Eskins references fail to present a *prima facie* case of obviousness, due to the failure to all of the claim limitations of Applicant's amended claims. The Roulier reference discloses a cosmetic and/or dermatological dry powder. The powder of the Roulier reference will form an emulsion in water (page 7., 0042). The formation of an emulsion means that the starch and oily phase have separated. This disclosure is the opposite of Applicant's claims in which the starch-encapsulated compound is non-separable in the aqueous formulation. The Roulier reference is a secondary used to show that cationic starches can be used for starch encapsulation. Besides teaching

09/873,505

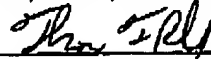
the opposite of Applicant's amended claims by disclosing that the cationic-starch-encapsulated oils do not remain non-separable in water, the Roulier reference fails to cure the defects of the Wurzburg and Eskin references cited above, failing to teach all of Applicant's claim limitations.

Wurzburg et al., Eskin et al., Roulier et al., in view of Fletcher et al

Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Wurzburg et al., Eskin et al., and Roulier et al., as applied to claims 1, 2, 8-21 and 23-25, and further in view of Fletcher et al. (U.S. Patent Number 6,261,543 B1). The Fletcher secondary reference is cited to show the use of a cationically-modified starch in an anti-perspirant. The Fletcher reference fails to disclose a starch-encapsulated hydrophobic compound, or a stable aqueous personal care or cosmetic formulation, and therefore fails to correct the deficiencies of the other cited references.

Applicant respectfully submits that the foregoing is a complete response to the Office Action, and requests the Examiner to remove all rejections and pass the application to issuance at this time.

Respectfully submitted,



Thomas F. Roland, Reg. No. 42,110  
Attorney for Applicants  
Tel. No. 908-685-5127

National Starch and Chemical Company  
P.O. Box 6500  
Bridgewater, New Jersey 08807-0500  
July 22, 2002